IN THE DRAWINGS:

The attached Replacement Sheets of drawings includes changes to FIGS. 8, 9, and 10. The Replacement Sheets, which include FIGS. 8, 9, and 10, replace the original sheets including FIGS. 8, 9, and 10. FIGS. 8, 9, and 10 have been amended to add a legend of "PRIOR ART" thereto. No other changes have been made to FIGS. 8, 9, and 10.

REMARKS

The present application has been reviewed in light of the Office Action dated September 2, 2009. Claims 1, 2, 4-9, 11-15, and 17-19 are presented for examination, of which Claims 1, 8, 9, 11, 14, 15, and 17-19 are in independent form. Claims 3, 10, 16, and 20 have been canceled, without prejudice or disclaimer of the subject matter presented therein. Claims 1, 2, 4-9, 11, 12, 14, 15, and 17-19 have been amended to define aspects of Applicants' invention more clearly. Favorable reconsideration is requested.

The Office Action states that FIGS. 8, 9, and 10 are objected to, because they illustrate that which is old. In response, FIGS. 8, 9, and 10 have been amended to add a legend of "PRIOR ART" thereto. It is believed that the objections to the drawings have been obviated, and their withdrawal therefore is respectfully requested.

The Office Action states that Claims 8, 9, 14, 15, 18, and 19 are rejected under 35 U.S.C. § 101, as being directed to non-statutory subject matter. Without conceding the propriety of these rejections, each of Claims 9, 15, and 19 has been amended to be directed to a "computer-readable storage medium." In addition, each of Claims 8, 14, and 18 has been amended to specify that a step is performed, at least in part, by a computer processor. It is believed that the rejections under Section 101 have been obviated, and their withdrawal therefore is respectfully requested.

The Office Action states that Claims 1-16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Cancellation of Claims 3, 10, and 16 renders their rejections moot. Applicants have carefully reviewed and amended Claims 1, 2, 4-9, and 11-15, as deemed necessary, to ensure that they conform fully to the requirements of Section 112, second paragraph, with special attention to the points raised in section 8 of the Office Action. It

is believed that the rejections under Section 112, second paragraph, have been obviated, and their withdrawal therefore is respectfully requested.

The Office Action states that Claims 1-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,169,821 (*Fukunaga*) in view of U.S. Patent No. 5,982,435 (*Tong et al.*), and further in view U.S. Patent Application Publication No. 2002/0031182 (*Kishi*). Cancellation of Claims 3, 10, 16, and 20 renders their rejections moot. For at least the following reasons, Applicants submit that independent Claims 1, 8, 9, 11, 14, 15, and 17-19, together with the claims dependent therefrom, are patentably distinct from the cited prior art.

The aspect of the present invention set forth in Claim 1 is directed to a moving image coding apparatus that sequentially inputs and codes image data of frames constituting a moving image. The apparatus includes a mode selection unit, a storage unit, a segmentation unit, a decoding unit, a computation unit, a transformation unit, a code data generating unit, an adjusting unit, and an output unit. For each frame, the mode selection unit adaptively selects either a first coding mode using inter-frame correlation or a second coding mode of coding a frame separately. The storage unit stores a frame image. The segmentation unit segments image data of an input frame into a plurality of blocks. The decoding unit decodes locally coded image data in accordance with an output from the mode selection unit and stores the coded image data into the storage unit. From a previous frame that has been locally decoded and stored in the storage unit by the decoding unit, the computation unit (i) extracts predicted data of a block image obtained by segmentation by the segmentation unit and outputs a block obtained by subtracting the predicted data from the segmented block image, if the mode selected by the mode selection unit is the first coding mode, or (ii) outputs the block segmented by the segmentation unit, if the mode selected by the mode selection unit is the second coding mode. The

transformation unit transforms the block obtained by the computation unit into spatial frequency component data. The code data generating unit encodes the spatial frequency component data for each bitplane to generate code data for each bitplane. The adjusting unit adjusts a code data amount by discarding code data corresponding to bitplanes from a least significant bit position to a predetermined bit position. The output unit outputs remaining code data from the adjusting unit.

By virtue of the operation of the computation, transformation, code data generating, adjusting, and output units, the moving image coding apparatus of Claim 1 can prevent deterioration of image quality, for example. That is, by suppressing errors caused by discarding code data of a bitplane, the errors are prevented from gradually accumulating in predicted frame images, such as P-pictures and B-pictures.

Fukunaga is understood to relate to a picture coder, picture decoder, and picture transmission system that combine good data compression performance with a high tolerance of frame dropouts (*see* col. 1, lines 5-8). *Fukunaga* discusses that methods employing both intra-frame and inter-frame coding have been standardized (*see* col. 1, lines 30-31). Intra-frame coding can be performed at regular intervals and inter-frame coding can be carried out at other times (*see* col. 1, lines 35-37). With inter-frame coding, each frame is coded with reference to the immediately preceding frame (*see* col. 1, lines 37-39). According to *Fukunaga*, frames coded by inter-frame coding are predicted from the preceding frames (*see* col. 1, lines 40-41). Frames coded by inter-frame coding can be referred to as P-frames and frames coded by intra-frame coding can be referred to as I-frames (*see* col. 1, lines 41-44).

Nothing has been found in *Fukunaga* that is believed to teach or suggest that data is extracted from a previous frame, much less that predicted data of a block image obtained by segmenting image data of an input frame into a plurality of blocks is extracted from a previous

frame. Moreover, nothing has been found in *Fukunaga* that is believed to teach or suggest that data modified by the predicted data is output, if a first mode is selected, and that data unmodified by the predicted data is output, if a second mode is selected.

Tong et al. is understood to relate to a system that converts an image signal of a moving picture into storage codes and records the storage codes on a recording medium, and an apparatus that transmits the image signal of the moving picture through a transmission path (*see* col. 1, lines 10-22). Nothing has been found in *Tong et al.* that is believed to remedy the deficiencies of *Fukunaga* identified above.

Kishi relates to encoding and storing image data (*see* paragraph 1). Nothing has been found in *Kishi* that is believed to remedy the deficiencies of *Fukunaga* identified above.

In summary, Applicants submit that a combination of *Fukunaga*, *Tong et al.*, and *Kishi*, assuming such combination would even be permissible, would fail to teach or suggest an apparatus that includes a "a computation unit that (i) extracts, from a previous frame that has been locally decoded and stored in said storage unit by said decoding unit, predicted data of a block image obtained by segmentation by said segmentation unit and outputs a block obtained by subtracting the predicted data from the segmented block image, if the mode selected by said mode selection unit is the first coding mode, or (ii) outputs the block segmented by said segmentation unit, if the mode selected by said mode selection unit is the second coding mode," a "transformation unit that transforms the block obtained by said computation unit into spatial frequency component data," a "code data generating unit that encodes the spatial frequency component data for each bitplane to generate code data for each bitplane," an "adjusting unit that adjusts a code data amount by discarding code data corresponding to bitplanes from a least significant bit position to a predetermined bit position," and an "output unit that outputs remaining code data from said adjusting unit as the code data of the segmented block," as recited

in Claim 1. Accordingly, Applicants submit that Claim 1 is patentable over the cited art, and respectfully request withdrawal of the rejection of Claim 1 under 35 U.S.C. § 103(a).

Independent Claims 8, 9, 11, 14, and 15 include one or more features that are sufficiently similar to those of Claim 1 that these claims are believed to be patentable over the cited art for at least the reasons discussed above. For example, independent Claim 11 is directed to a moving image coding apparatus that includes a "computation unit that, when the first coding mode is selected by said mode selection unit, extracts predicted data of a block image obtained by said segmentation unit from image data stored in said storage unit and outputs a difference between the extracted predicted data and the block image, or when the second coding mode is selected by said mode selection unit, outputs the block image segmented by said segmentation unit," and an "updating unit that updates, if the second coding mode is selected by said mode selection unit, said storage unit with image data obtained by locally decoding code data generated by said coding unit," which Applicants submit is neither taught nor suggested by *Fukunaga*, *Tong et al.*, and *Kishi*, whether considered separately or in combination.

Independent Claim 17 recites:

> A moving image decoding apparatus that decodes coded moving image data, the apparatus comprising:
>
> a storage unit that stores at least one-frame image data;
>
> a determination unit that determines, based on input code data, whether code data of interest is code data based on a first coding mode using inter-frame correlation or based on a second coding mode of coding a frame separately;
>
> a decoding unit that decodes the code data of interest;
>
> an addition unit that, when said determination unit determines that the code data of interest is code data based on the first coding mode, regards a decoding result obtained by said decoding unit as difference image data, and generates a frame image by adding image data stored in said storage unit to the difference image data, or, when said determination unit determines that the code data of interest is code data based on the second coding mode, outputs a decoding result by said decoding unit as a frame image; and

> an updating unit that updates, if said determination unit determines that the code data of interest is code data based on the second coding mode, said storage unit with the frame image output from said addition unit.

Applicants submit that a combination of *Fukunaga*, *Tong et al.*, and *Kishi*, whether considered separately or in combination, assuming such combination would even be permissible, would fail to teach or suggest the features of the moving image decoding apparatus recited in Claim 17. Independent Claims 18 and 19 include features that are sufficiently similar to those of Claim 17 that these claims are believed to be patentable over the cited art for at least the reasons discussed above.

The other rejected claims in the present application depend from one or another of independent Claims 1 and 11 and are submitted to be patentable for at least the same reasons. Because each dependent claim also is deemed to define an additional aspect of the invention, however, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and an early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should be directed to our address listed below.

Respectfully submitted,

/Jonathan Berschadsky/
Jonathan Berschadsky
Attorney for Applicants
Registration No. 46,551

FITZPATRICK, CELLA, HARPER & SCINTO
1290 Avenue of the Americas
New York, New York 10104-3800
Facsimile: (212) 218-2200

FCHS_WS 4372723_3